



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Central Regional Office • 627 Main Street, Worcester MA 01608 • 508-792-7650

DEVAL L. PATRICK
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Commissioner

October 17, 2014

Mr. Keith LeBlanc
Affordable Interior Systems, Inc.
4 Bonazzoli Avenue
Hudson, MA 01453

RE: Leominster
Transmittal No.: X239241
Application No.: CE-14-019
Class: *SM-25*
FMF No.: 282001
AIR QUALITY PLAN APPROVAL

Dear Mr. LeBlanc:

The Massachusetts Department of Environmental Protection (“MassDEP”), Bureau of Waste Prevention, has reviewed your Non-major Comprehensive Plan Application (“Application”) listed above. This Application concerns the proposed construction and operation of an office furniture manufacturing facility located at 25 Tucker Drive in Leominster, Massachusetts (“Facility”). The Application bears the seal and signature of Mark Bannon, Massachusetts Registered Professional Engineer Number 40552.

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 “Air Pollution Control” regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-N, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP’s review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator (“Permittee”) must comply in order for the Facility to be operated in compliance with this Plan Approval.

1. DESCRIPTION OF FACILITY AND APPLICATION

A. HISTORY

Affordable Interior Systems, Inc. (AIS) [“The Permittee”] currently has an office furniture manufacturing facility at 54 Cherry Street, Hudson, Massachusetts. On May 13, 2008, MassDEP issued a Non-Major Comprehensive Plan Approval, Transmittal No. W209840, to the Permittee for the operation of the 54 Cherry Street facility. On August 22, 2014, the Permittee submitted the present application, proposing to move the entire 54 Cherry Street manufacturing operation to the Facility at 25 Tucker Drive, Leominster, Massachusetts.

B. PROJECT DESCRIPTION

The approved project consists of the installation and operation of woodworking equipment and the associated dust collection systems and the use of adhesives, cleaning agents and paint containing volatile organic compounds (VOC) and acetone (non-photochemically reactive hydrocarbon or HYC) in the manufacture of office furniture. Some of the VOC compounds are also listed Hazardous Air Pollutants (HAP). This project also includes a projected increase in furniture making capacity over the former capacity at the Hudson facility, and therefore the total Facility-Wide VOC emissions limit is increasing from 8 to 10 tons per year.

Plan Approval Transmittal No. W209840, issued to the Permittee on May 13, 2008, is rescinded in its entirety upon the removal of the subject wood furniture manufacturing equipment from the 54 Cherry Street, Hudson facility.

1) Woodworking Equipment and Emissions

Wood-product sheet goods are processed with various woodworking machines to produce the required size and shape pieces. The machines include saws, routers, chippers, edge banders, etc. These machines generate significant quantities of wood dust. The individual machines will have dust collection hoods and enclosures to capture the dust at the point of generation. All dust collection capture points will be connected to ductwork leading to two different dust collectors located outdoors. The exhaust air from the two dust collectors will be vented back inside the building and will not be exhausted outdoors. Because the dust collectors are not exhausted outdoors, they are not required to be approved under 310 CMR 7.02. The woodworking equipment and dust collectors are designated as Emission Units (EUs) #3 and #4.

2) Adhesive Application and Cleanup

The following materials used in constructing the furniture contain VOC, HAP and/or HYC. After the materials are applied, the VOC, HAP and HYC is emitted as fugitive emissions into the general room air. The use of all of these materials is collectively designated as EU #1.

a) Panel Adhesive

Full sheet decorative layers are bonded to full sheet wood substrates using a water-based glue. The glue contains vinyl acetate adhesive with small percentage of VOC.

b) Edge Band Release

At the edge banding machine, the decorative edge bands are first sprayed with edge band release which prevents the adhesive from sticking to the outside of the edge band.

c) Thermoplastic Edge Band Adhesive

The edge banding machine melts beads of thermoplastic adhesive used to bond the edge band to the substrate.

d) Edge Band Cleaning

After gluing, liquid edge band cleaner is sprayed onto the edge band to assist the release of excess glue.

e) Wipe Cleaning

Fiber wipes are used to clean off any remaining glue from the furniture surface. The fiber wipes have cleaning solutions added to assist the removal of the glue. The cleaning solutions include, but are not limited to: Pre-packaged alcohol wipes; water plus vinegar solutions; and low-VOC cleaning solutions such as "Simple Green" in varying concentrations in water.

f) Lacquer Thinner

Lacquer thinner, dispensed from closed push-top cans onto rags, is used for incidental cleaning of work surfaces prior to packing.

3) Paint Spray Booth

Metal structures are received pre-painted and are welded to form the required shapes for furniture. Following welding, the metal requires touch-up painting. The paint is applied with spray guns inside a spray booth. VOC emissions from the paint are vented from the spray booth stack mounted on the roof. The paint spray booth is designated as EU #2.

C. APPLICABLE REGULATORY REQUIREMENTS

1) Best Available Control Technology (BACT)

MassDEP has determined that BACT for EU #1 & 2 is represented by the use of Best Management Practices ("BMP") to minimize the use and emissions from VOC, HAP and HVC containing materials. These BMPs are listed in Table 6, Special Terms and Conditions. BACT

for EU #3 & 4 is represented by the use of high efficiency (99+%) dust collectors; the fact that they will be vented indoors means that they are not considered to be venting to the ambient air.

2) Federal Regulations

The Permittee has indicated that this project is not subject to Federal New Source Performance Standards (“NSPS”) or National Emission Standards for Hazardous Air Pollutants (“NESHAP”).

2. EMISSION UNIT IDENTIFICATION

Each Emission Unit (“EU”) identified in Table 1 is subject to and regulated by this Plan Approval:

Table 1			
EU	Description	Design Capacity	Pollution Control Device (PCD)
1	Adhesive Application and Cleanup	N/A	None
2	Spray Painting	N/A	None
3	Woodworking Operations	32,000 cfm	Farr Dust Collector
4	Woodworking Operations	18,000 cfm	Farr Dust Collector

Table 1 Key:

EU = Emission Unit Number

cfm = cubic feet per minute

PCD = Pollution Control Device

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2:

Table 2			
EU	Usage Restrictions	Air Contaminant	Emission Limit (Note 1)
1	1. Restrict raw materials usage to comply with emission limits	VOC/HAP	9 TPY, 2 TPM
		HYC	4 TPY, 1 TPM
2	2. Restrict paint usage to comply with emission limits	VOC/HAP	1TPY, 0.5 TPM
Facility-		VOC	10 TPY, 2 TPM

Table 2			
EU	Usage Restrictions	Air Contaminant	Emission Limit (Note 1)
Wide		HAP (total)	5 TPY, 2.5 TPM
		HYC (Note 2)	4 TPY, 1 TPM

Table 2 Key:

EU = Emission Unit Number

VOC = Volatile Organic Compounds

VOC/HAP = the sum of all VOC compounds, including those that are HAP and those that are non-HAP

HAP (total) = total Hazardous Air Pollutants.

TPY = tons per consecutive 12-month period

HYC = non-photochemically reactive hydrocarbons

TPM = tons per month

Table 2 Notes:

Note 1: The Permittee shall use emission factors approved by MassDEP in calculating emissions, as required by Table 6, Special Conditions.

Note 2: HYC compounds include acetone plus other listed HYC compounds that may be present in product formulations.

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5:

Table 3	
EU	Monitoring and Testing Requirements
1 & 2	1. Monitor purchase records and usage of all adhesives, cleaning agents and coatings in order to calculate VOC, HAP and HYC emissions.
Facility-wide	2. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration
	3. If and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and Regulation 310 CMR 7.13
	4. At least 30 days prior to emission testing, the Permittee shall submit to MassDEP for approval a stack emission pretest protocol.
	5. Within 45 days after emission testing, the Permittee shall submit to MassDEP a final stack emission test results report.

Table 3 Key:

EU = Emission Unit Number

VOC = Volatile Organic Compounds

HYC = non-photochemically reactive hydrocarbons

HAP = Hazardous Air Pollutants.

Table 4	
EU	Record Keeping Requirements
Facility-wide	1. The Permittee shall maintain adequate records on-site to demonstrate compliance status with all operational, production, and emission limits contained in Table 2 above. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve-month period (current month plus prior eleven months). These records shall be compiled no later than the 15 th day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at http://www.mass.gov/eea/agencies/massdep/air/approvals/limited-emissions-record-keeping-and-reporting.html#WorkbookforReportingOn-SiteRecordKeeping .
	2. The Permittee shall maintain records of monitoring and testing as required by Table 3.
	3. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the EU(s) approved herein on-site.
	4. The Permittee shall maintain a record of routine maintenance activities performed on the approved EU(s) and monitoring equipment. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.
	5. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU(s) and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation.
	6. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	7. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.
	8. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.

Table 4 Key:

EU = Emission Unit Number
SOMP = Standard Operating and Maintenance
Procedure

USEPA = United States Environmental Protection
Agency

Table 5	
EU	Reporting Requirements
Facility-wide	1. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a “Responsible Official” as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	2. The Permittee shall notify the Central Regional Office of MassDEP, BWP Permit Chief by telephone: 508-767-2845, email: Roseanna.Stanley@state.ma.us, or fax : 508-792-7621, as soon as possible, but no later than three (3) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to the Permit Chief at MassDEP within ten (10) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).
	3. The Permittee shall report every three years to MassDEP, in accordance with 310 CMR 7.12, all information as required by the Source Registration/Emission Statement Form. The Permittee shall note therein any minor changes (under 310 CMR 7.02(2)(e), 7.03, 7.26, etc.), which did not require Plan Approval.

Table 5 Key:

EU = Emission Unit Number

4. SPECIAL TERMS AND CONDITIONS

- A. The Permittee is subject to, and shall comply with, the Special Terms and Conditions as contained in Table 6 below:

Table 6	
EU	Special Terms and Conditions
1 & 2	<p>1. The Permittee shall use BMPs to minimize emissions. The BMPs shall include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • The Permittee shall monitor glue, machining, and spray unit settings to ensure that just enough amounts of glue and releasing/cleaning agent is applied to each work surface to meet AIS quality standards. • The Permittee shall monitor how much release/cleaning agent is applied per linear feet of edge-banding. A baseline will be developed and used to measure usage and improvements. • The Permittee shall perform edge-banding pull strength tests daily to ensure minimum glue is applied according to the Permittee's quality standards. • Lacquer thinner (or other flammable solvents) used for cleaning purposes shall be stored in safety plunger dispensing cans to dispense liquid safely, without waste or exposure. • The Permittee shall provide operator training to spray booth painters to review such things as optimal placement of parts in relation to gun, optimal position, reading booth manometer and pressure pot gages, filter removal and disposal. • Paint shall be placed in covered receptacles. • Paint spray guns shall be cleaned using enclosed containers. • Clean-up rags shall be disposed of in covered containers. • The Permittee shall explore the use of commercial rag laundry service. • Spent solvents shall be collected in covered containers and recycled to the extent possible. • Paint and solvents shall be dispensed in small quantities to the extent possible to eliminate waste. • The Permittee shall continue to research means to reduce emissions by input substitution, product reformulation, production unit modification, etc. <p>2. The Permittee shall submit a complete emission tracking system for emissions of air contaminants subject to this Plan Approval to MassDEP within 60 days of the issue date of this Plan Approval. Such system shall include how monitoring and recordkeeping is done for the usage of various raw materials; how the emissions are calculated from raw material usage; and what emission factors are used. Upon acceptance by MassDEP, the Permittee shall follow the accepted emission tracking system, unless and until it is altered again by MassDEP.</p>
3 & 4	<p>3. The dust collectors serving the woodworking operations shall not be vented to the ambient air.</p>
Facility-Wide	<p>4. Plan Approval Transmittal No. W209840, issued to the Permittee on May 13, 2008, is rescinded in its entirety upon the removal of the subject wood furniture manufacturing equipment from the 54 Cherry Street, Hudson facility.</p>

Table 6 Key:

EU = Emission Unit Number
BMPs = Best Management Practices

- B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including, but not limited to, rain protection devices known as “shanty caps” and “egg beaters.”
- C. The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7, for the Emission Units that are regulated by this Plan Approval:

Table 7				
EU	Stack Height Above Ground (feet)	Stack Inside Exit Dimensions Feet	Stack Gas Exit Velocity Range (feet per second)	Stack Gas Exit Temperature Range (°F)
2	35	2.5	40-80	50-120

Table 7 Key:

EU = Emission Unit Number

°F = Degree Fahrenheit

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

- A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).
- B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all

removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.

- C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.
- D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.
- E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.
- F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.
- G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.
- H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.
- I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.
- J. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain "Fail-Safe Provisions," which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

7. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Enclosed is a stamped approved copy of the application submittal.

Should you have any questions concerning this Plan Approval, please contact Paul Dwiggins by telephone at 508-767-2760, or in writing at the letterhead address.

This final document copy is being provided to you electronically by the
Department of Environmental Protection. A signed copy of this document
is on file at the DEP office listed on the letterhead.

Roseanna E. Stanley
Permit Chief
Bureau of Waste Prevention

Enclosure

ecc: Leominster Board of Health
Leominster Fire Department
MassDEP/Boston - Yi Tian

Mark Bannon Engineering